



DEPARTMENT OF REGULATORY AND ECONOMIC RESOURCES (RER)
BOARD AND CODE ADMINISTRATION DIVISION

**MIAMI-DADE COUNTY
PRODUCT CONTROL SECTION**

11805 SW 26 Street, Room 208
Miami, Florida 33175-2474
T (786) 315-2590 F (786) 315-2599

www.miamidade.gov/economy

NOTICE OF ACCEPTANCE (NOA)

Tamko Building Products, Inc.
220 West 4th Street
Joplin, MO 64801

SCOPE:

This NOA is being issued under the applicable rules and regulations governing the use of construction materials. The documentation submitted has been reviewed and accepted by Miami-Dade County RER - Product Control Section to be used in Miami-Dade County and other areas where allowed by the Authority Having Jurisdiction (AHJ).

This NOA shall not be valid after the expiration date stated below. The Miami-Dade County Product Control Section (in Miami-Dade County) and/or the AHJ (in areas other than Miami-Dade County) reserve the right to have this product or material tested for quality assurance purposes. If this product or material fails to perform in the accepted manner, the manufacturer will incur the expense of such testing and the AHJ may immediately revoke, modify, or suspend the use of such product or material within their jurisdiction. RER reserves the right to revoke this acceptance, if it is determined by Miami-Dade County Product Control Section that this product or material fails to meet the requirements of the applicable building code.

This product is approved as described herein, and has been designed to comply with the Florida Building Code including the High Velocity Hurricane Zone of the Florida Building Code.

DESCRIPTION: TAMKO BUR Roof System over Recover Decks.

LABELING: Each unit shall bear a permanent label with the manufacturer's name or logo, city, state and following statement: "Miami-Dade County Product Control Approved", unless otherwise noted herein.

RENEWAL of this NOA shall be considered after a renewal application has been filed and there has been no change in the applicable building code negatively affecting the performance of this product.

TERMINATION of this NOA will occur after the expiration date or if there has been a revision or change in the materials, use, and/or manufacture of the product or process. Misuse of this NOA as an endorsement of any product, for sales, advertising or any other purposes shall automatically terminate this NOA. Failure to comply with any section of this NOA shall be cause for termination and removal of NOA.

ADVERTISEMENT: The NOA number preceded by the words Miami-Dade County, Florida, and followed by the expiration date may be displayed in advertising literature. If any portion of the NOA is displayed, then it shall be done in its entirety.

INSPECTION: A copy of this entire NOA shall be provided to the user by the manufacturer or its distributors and shall be available for inspection at the job site at the request of the Building Official.

This NOA renews and revises NOA No.12-0716.09 and consists of pages 1 through 23.
The submitted documentation was reviewed by Gaspar J Rodriguez.



NOA No.: 16-0517.07
Expiration Date: 08/23/21
Approval Date: 09/08/16
Page 1 of 23

ROOFING SYSTEM APPROVAL

Category:	Roofing
Sub-Category:	BUR
Material:	Fiberglass
Deck Type:	Recover
Maximum Design Pressure:	See specific deck type.

TRADE NAMES OF PRODUCTS MANUFACTURED OR LABELED BY APPLICANT:

TABLE 1

Product	Dimensions	Test Specification	Product Description
Glass-Base™	39 3/8" wide	ASTM D4601, Type II	Fiberglass Base Sheet.
Tam-Cap™	39 3/8" wide	ASTM D3909	Fiberglass Cap Sheet.
Tam-Ply IV™	39 3/8" wide	ASTM D2178, Type IV	Fiberglass Ply Sheet.
Type 43 Base Sheet	36" wide	ASTM D2626	Organic Base Sheet.
Tam-Pro 846 Fibered Emulsion Coating	5 gallon	ASTM D1227, Type II	Protective coating.
Tam-Pro 813 Asphalt Primer	5 gallon	ASTM D41	Asphalt based primer

APPROVED INSULATIONS:

TABLE 2

Product Name	Product Description	Manufacturer (With Current NOA)
ACFoam Composite	Isocyanurate Insulation with perlite facer	Atlas Roofing Corp.
ACFoam II	Isocyanurate Insulation	Atlas Roofing Corp.
EnergyGuard Polyiso	Polyisocyanurate	GAF
DensDeck	Silicon treated gypsum	Georgia Pacific Gypsum LLC
ENRGY 3	Isocyanurate Insulation.	Johns Manville Corp.
ENRGY 3 25 PSI	Isocyanurate Insulation	Johns Manville Corp.
Fesco Foam	Polyisocyanurate / woodfiber insulation	Johns Manville Corp.
Fesco Board	Expanded perlite and fiber insulation	Johns Manville Corp.
Structodek High Density Fiberboard Roof Insulation	High Density Wood Fiber insulation board.	Blue Ridge Fiberboard
Multi-Max FA-3	Isocyanurate Insulation.	Rmax Operating LLC
H-Shield	Polyisocyanurate foam insulation	Hunter Panels LLC
H-Shield WF	Wood fiber/Isocuanurate Composite Insulation	Hunter Panels LLC
ISO 95+ GL	Polyisocyanurate Foam Insulation	Firestone Building Products Company, LLC



APPROVED FASTENERS:

TABLE 3

Fastener Number	Product Name	Product Description	Dimensions	Manufacturer (With Current NOA)
1.	#12 Standard Roofgrip	Insulation fastener for wood and steel.		OMG Inc.
2.	#14 Roofgrip	Insulation fastener		OMG Inc.
3.	OMG Accutrac Fasteners	Insulation fastener for wood and steel.		OMG Inc.
4.	AccuTrac Plate	Galvalume AZ50 steel plate	3" square	OMG Inc.
5.	3 in. Round Metal Plate	Galvalume AZ50 steel plate	3" round	OMG Inc.
6.	OMG Plastic Plate	Polypropylene plastic plate	3.25" round	OMG Inc.
7.	#12 Dekfast	Insulation fastener for steel and wood decks		SFS Intec, Inc.
8.	#14 Dekfast	Insulation fastener for steel and wood decks		SFS Intec, Inc.
9.	Dekfast 3" Round Steel Insulation Plate	Galvalume AZ50 steel plate	3" round	SFS Intec, Inc.
10.	Trufast #12 DP Fastener	Insulation fastener for steel and wood decks		Altenloh, Brinck & Co. U.S., Inc.
11.	Trufast 3" Metal Insulation Plates	Galvalume AZ55 steel plate	3" round	Altenloh, Brinck & Co. U.S., Inc.
12.	#15 Roofgrip	Insulation fastener		OMG Inc.

EVIDENCE SUBMITTED:

<u>Test Agency</u>	<u>Test Name/Report</u>	<u>Test Identifier</u>	<u>Date</u>
Underwriters Laboratories, Inc.	UL 790	R3225	07/17/13
Factory Mutual Research Corporation	Class 4470	J.I. 4D0A7.AM	10/21/98
	Class 4470	J.I. 0Z4A3.AM	08/27/97
	Class 4470	J.I.1D4A7.AM	10/20/97
	Class 4470	J.I. 3B5A9.AM	08/27/97
	Class 4470	3027787	08/14/06
	Class 4470	3027789	08/14/06
	Class 4470	3027790	08/14/06
Dynatech Engineering Corporation	Class 4470	3027791	08/14/06
	TAS 114	4440.05.95-2	05/01/95
	TAS 114	4440.05.95-1	05/01/95
Exterior Research & Design, LLC	TAS 114	4444.06.98-1	06/15/98
Trynity ERD	ASTM D 4601	SC10960.02.16-1	02/11/16
	ASTM D 2178	SC10960.02.16-2	02/11/16
	ASTM D 3909	SC10960.02.16-3	02/11/16
	TAS 117	C8500SC.00.07	11/30/07
	TAS 117 & TAS 114	C12410.08.09	08/14/09
PRI Construction Materials Technologies LLC	ASTM D 5147/ D 6164	TAP-252-02-01	03/14/12
	ASTM D 5147/ D 6164	TAP-253-02-01	03/14/12
	ASTM D 6163	TAP-254-02-02	01/24/12
	ASTM D 4601	TAP-255-02-01	11/04/11
	ASTM D 4601	TAP-255-02-02	11/04/11
	ASTM D 2178	TAP-256-02-01	11/04/11
	ASTM D 2178	TAP-256-02-02	11/04/11
	ASTM D 2626	TAP-257-02-01	12/12/11
	ASTM D 4897	TAP-257-02-02	11/18/11
	ASTM D 3909	TAP-257-02-03	11/18/11
	ASTM D 5147/ D 6164	TAP-266-02-01	06/19/12
	ASTM D 6164	TAP-272-02-01	08/03/12

DECK STRESS ANALYSIS CALCULATIONS/REPORTS

<u>Engineer/Agency</u>	<u>Identifier</u>	<u>Assemblies</u>	<u>Date</u>
Robert Nieminen, P.E.	Amendment Letter	A(2), B(3), D(2), E(2)	08/30/16



APPROVED ASSEMBLIES

Membrane Type: BUR

Deck Type 7I: Recover

Deck Description: Wood

System Type A(1): Anchor sheet mechanically fastened through to deck; all layers of insulation adhered with approved asphalt.

All General and System Limitations apply

Anchor Sheet: One ply of Tamko Glass-Base fastened to the deck as described below:

Fastening: *(Option #1 – wood decks only)* Attach anchor sheet using 11 ga. annular ring shank nails and 1-5/8" diameter tin caps spaced 9" o.c. in a 4" lap and 9" o.c. in two staggered rows in the center of the sheet.

Maximum Design Pressure –52.5 psf. (See General Limitation #7.)

(Option #2 – wood decks only) Attach anchor sheet using #14 Dekfast Fasteners with Plates spaced 12" o.c. in a 4" lap and 12" o.c. in two staggered rows in the center of the sheet.

Maximum Design Pressure –60 psf. (See General Limitation #7.)

Note: Anchor sheet fasteners shall be tested for withdrawal resistance in compliance with Testing Application Standard TAS 105 to confirm compliance with the wind load requirements set forth in applicable Building Code.

Insulation Layer	Insulation Fasteners (Table 3)	Fastener Density/ft ²
ACFoam II Minimum 1.2" thick	N/A	N/A
ENRGY 3, ENRGY 3 25 PSI, H-Shield Minimum 1.4" thick	N/A	N/A
Fesco Board Minimum 3/4" thick	N/A	N/A
Structodek High Density Fiberboard Minimum 1/2" thick	N/A	N/A

Note: All insulation shall be adhered to the anchor sheet in full mopping of approved hot asphalt within the EVT range and at a rate of 20-40 lbs/100 ft². Please refer to Roofing Application Standard RAS 117 for insulation attachment. Insulation listed as base layer only shall be used only as base layers with a second layer of approved top layer insulation installed as the final membrane substrate. Composite insulation panels may be used as a top layer placed with the polyisocyanurate side facing down.

- Base Sheet:** (Optional) Install one ply of Type 43 coated base sheet or Glass-Base™ base sheet directly to the insulated substrate. Adhere in a full mopping of approved asphalt applied within the EVT range and at a rate of 20-40 lbs./sq.. If base sheet is applied directly to polyisocyanurate insulation only a spot or strip mopped application as detailed in this approval is approved; see General Limitation #4.
- Note:** **Type 43 coated base sheet cannot be spot mopped.**
- Ply Sheet:** Two or more plies of Tam-Ply IV ply sheet adhered in a full mopping of approved asphalt applied within the EVT range and at a rate of 20-40 lbs./sq..(See specification number for appropriate number of plies).
- Cap Sheet:** (Optional) One ply of Tam-Cap® adhered in a full mopping of approved asphalt applied within the EVT range and at a rate of 20-40 lbs./sq.. (See Tamko application instructions for approved method of installation).
- Surfacing:** (Required if no cap sheet is used) Any coating, listed below, used as a surfacing, must be listed within a current NOA. Install one of the following:.
1. Tam-Pro 846 Fibered Emulsion at 3 gal./sq.
 2. Flood coat of approved asphalt with an application rate of 60 lbs./sq.; plus gravel or slag with an application rate of 400 or 300 lbs./sq. respectively.
- Maximum Design Pressure:** *See Anchor Sheet Fastening Options.*

Membrane Type: BUR

Deck Type 7I: Recover

Deck Description: Structural concrete or min 22 ga. Grade 33 steel deck with supports spaced maximum 5 feet o.c.
 *The deck shall record a Minimum Characteristic Resistance Force (MCRF) of 133 lbf when tested with fasteners listed in this assembly, installed through the deck in accordance with TAS 105.
This Tested Assembly has been analysed for allowable deck stress. See Evidence Submitted Table.

System Type A(2): Anchor sheet mechanically fastened through to deck; all layers of insulation adhered with approved asphalt.

All General and System Limitations apply

Anchor Sheet: One ply of Tamko Glass-Base fastened to the deck as described below:

Fastening: Attach anchor sheet using OMG Accutrak Fasteners with 3" square metal plates spaced 12" o.c. in a 4" lap and 12" o.c. in two staggered rows in the center of the sheet.

Note: Anchor sheet fasteners shall be tested for withdrawal resistance in compliance with Testing Application Standard TAS 105 to confirm compliance with the wind load requirements set forth in applicable Building Code.

Insulation Layer	Insulation Fasteners (Table 3)	Fastener Density/ft ²
ACFoam II, ENRGY 3, EnergyGuard Polyiso, ISO 95+GL, ACFoam Composite, Multi-Max FA-3, H-Shield, H-Shield WF Minimum 1" thick	N/A	N/A
Fesco Board Minimum ¾" thick	N/A	N/A
Structodek High Density Fiberboard Minimum ½" thick	N/A	N/A

Note: All insulation shall be adhered to the anchor sheet in full mopping of approved hot asphalt within the EVT range and at a rate of 20-40 lbs/100 ft². Please refer to Roofing Application Standard RAS 117 for insulation attachment. Insulation listed as base layer only shall be used only as base layers with a second layer of approved top layer insulation installed as the final membrane substrate. Composite insulation panels may be used as a top layer placed with the polyisocyanurate side facing down.

Base Sheet: (Optional) Install one ply of Type 43 coated base sheet or Glass-Base™ base sheet directly to the insulated substrate. Adhere in a full mopping of approved asphalt applied within the EVT range and at a rate of 20-40 lbs./sq.. If base sheet is applied directly to polyisocyanurate insulation only a spot or strip mopped application as detailed in this approval is approved; see General Limitation #4.

Note: **Type 43 coated base sheet cannot be spot mopped.**

Ply Sheet: Two or more plies of Tam-Ply IV ply sheet adhered in a full mopping of approved asphalt applied within the EVT range and at a rate of 20-40 lbs./sq..(See specification number for appropriate number of plies).

Cap Sheet: (Optional) One ply of Tam-Cap® adhered in a full mopping of approved asphalt applied within the EVT range and at a rate of 20-40 lbs./sq.. (See Tamko application instructions for approved method of installation).



Surfacing: (Required if no cap sheet is used) Any coating, listed below, used as a surfacing, must be listed within a current NOA. Install one of the following:.

1. Tam-Pro 846 Fibered Emulsion at 3 gal./sq.
2. Flood coat of approved asphalt with an application rate of 60 lbs./sq.; plus gravel or slag with an application rate of 400 or 300 lbs./sq. respectively.

Maximum Design Pressure: *-75 psf. (See General Limitation #7.)*

Membrane Type: BUR

Deck Type 7I: Recover

Deck Description: Concrete

System Type A(3): One or more layers of insulation adhered with approved asphalt.

All General and System Limitations apply

Base Insulation Layer	Insulation Fasteners (Table 3)	Fastener Density/ft²
ACFoam II, ENRGY 3, EnergyGuard Polyiso, ISO 95+GL, Multi-Max FA-3, H-Shield, H-Shield WF Minimum 1" thick	N/A	N/A
ACFoam Composite Minimum 1.5" thick	N/A	N/A
DensDeck Minimum 1/4" thick	N/A	N/A
Top Insulation Layer (Optional)	Insulation Fasteners (Table 3)	Fastener Density/ft²
DensDeck Minimum 1/4" thick	N/A	N/A
Fesco Board Minimum 3/4" thick	N/A	N/A
Structodek High Density Fiberboard Minimum 1/2" thick	N/A	N/A

Note: Existing roof shall be primed with ASTM D 41 asphalt primer and allowed to dry prior to application of insulation. All insulation shall be adhered to the anchor sheet in full mopping of approved hot asphalt within the EVT range and at a rate of 20-40 lbs/100 ft². Please refer to Roofing Application Standard RAS 117 for insulation attachment. Insulation listed as base layer only shall be used only as base layers with a second layer of approved top layer insulation installed as the final membrane substrate. Composite insulation panels may be used as a top layer placed with the polyisocyanurate side facing down.



- Base Sheet:** (Optional) Install one ply of Type 43 coated base sheet or Glass-Base™ base sheet directly to the insulated substrate. Adhere in a full mopping of approved asphalt applied within the EVT range and at a rate of 20-40 lbs./sq. If base sheet is applied directly to polyisocyanurate insulation only a spot or strip mopped application as detailed in this approval is approved; see General Limitation #4.
- Note:** **Type 43 coated base sheet cannot be spot mopped.**
- Ply Sheet:** Two or more plies of Tam-Ply IV ply sheet adhered in a full mopping of approved asphalt applied within the EVT range and at a rate of 20-40 lbs./sq. (See specification number for appropriate number of plies).
- Cap Sheet:** (Optional) One ply of Tam-Cap® adhered in a full mopping of approved asphalt applied within the EVT range and at a rate of 20-40 lbs./sq.. (See Tamko application instructions for approved method of installation).
- Surfacing:** (Required if no cap sheet is used) Any coating, listed below, used as a surfacing, must be listed within a current NOA. Install one of the following:
1. Tam-Pro 846 Fibered Emulsion at 3 gal./sq.
 2. Flood coat of approved asphalt with an application rate of 60 lbs./sq.; plus gravel or slag with an application rate of 400 or 300 lbs./sq. respectively.
- Maximum Design Pressure:**
- 165 psf. (for minimum 1.5" thick Approved polyisocyanurate followed by minimum ¾" thick Fesco Board applied in hot asphalt.) (See General Limitation #9)
 - 230 psf. (for minimum 1.5" thick Approved polyisocyanurate followed by minimum ¼" thick Dens Deck or minimum ½" Structodek High Density Fiberboard applied in hot asphalt.) (See General Limitation #9)
 - 200 psf. (for minimum 1.5" thick ACFoam II Composite, H-Shield-WF applied in hot asphalt.) (See General Limitation #9)
 - 230 psf. (for minimum ¼" thick Dens Deck applied in hot asphalt with no underlying insulation.) (See General Limitation #9)

Membrane Type: BUR

Deck Type 7I: Recover

Deck Description: Concrete/Lightweight Concrete/Cementitious Wood Fiber/Wood/Steel/Gypsum

System Type B(1): Base insulation layer mechanically fastened; top layer adhered with approved asphalt.

All General and System Limitations apply.

Base Insulation Layer	Insulation Fasteners (Table 3)	Fastener Density/ft²
ACFoam II, H-Shield Minimum 1.3" thick	1, 2, 5, 7, 8, 9	1:3 ft²
ENRGY 3 Minimum 1.4" thick	1, 2, 5, 7, 8, 9, 10, 11	1:3 ft²
ISO 95+ GL Minimum 1.4" thick	1, 2, 5, 7, 8, 9, 10, 11	1:4 ft²
Fesco Foam Minimum 1.5" thick	1, 2, 5, 7, 8, 9, 10, 11	1:4 ft²
ACFoam Composite Minimum 1.5" thick	1, 2, 5, 10, 11	1:2.67 ft²
Fesco Board Minimum 3/4" thick	1, 2, 5, 7, 8, 9, 10, 11	1:2 ft²
Structodek High Density Fiberboard Minimum 1/2" thick	1, 2, 5, 7, 8, 9, 10, 11	1:2 ft²

Note: Base layers of insulation shall be mechanically attached using the fastener density listed. The insulation panels listed are minimum sizes and dimensions; if larger panels are used, the number of fasteners shall be increased maintaining the same fastener density. Insulation fasteners shall be tested for withdrawal resistance in compliance with Protocol TAS 105 to confirm compliance with the wind load requirements. Please refer to Roofing Application Standard RAS 117 for insulation attachment.

Top Insulation Layer	Insulation Fasteners (Table 3)	Fastener Density/ft²
Any of the insulations listed for Base Layer, above or; H-Shield-WF Minimum 1.5" thick	N/A	N.A

Note: Apply top layer of insulation in a full mopping of any approved mopping asphalt within the EVT range and at a rate of 20-40 lbs/100 ft². Please refer to Roofing Application Standard RAS 117 for insulation attachment. Insulation listed as Base Layer only shall be used only as base layers with a second layer of approved top layer insulation installed as the final membrane substrate. Composite insulation panels may be used as a top layer placed with the polyisocyanurate side facing down.

Base Sheet	(Optional) Install one ply of Type 43 coated base sheet or Glass-Base™ base sheet directly to the insulated substrate. Adhere in a full mopping of approved asphalt applied within the EVT range and at a rate of 20-40 lbs./sq. If base sheet is applied directly to polyisocyanurate insulation only a spot or strip mopped application as detailed in this approval is approved; see General Limitation #4.
Note:	Type 43 coated base sheet cannot be spot mopped.
Ply Sheet:	Two or more plies of Tam-Ply IV ply sheet adhered in a full mopping of approved asphalt applied within the EVT range and at a rate of 20-40 lbs./sq. (See specification number for appropriate number of plies).
Cap Sheet:	(Optional) One ply of Tam-Cap® adhered in a full mopping of approved asphalt applied within the EVT range and at a rate of 20-40 lbs./sq.. (See Tamko application instructions for approved method of installation).
Surfacing:	(Required if no cap sheet is used) Any coating, listed below, used as a surfacing, must be listed within a current NOA. Install one of the following: <ol style="list-style-type: none"> 1. Tam-Pro 846 Fibered Emulsion at 3 gal./sq. 2. Flood coat of approved asphalt with an application rate of 60 lbs./sq.; plus gravel or slag with an application rate of 400 or 300 lbs./sq. respectively.
Maximum Design Pressure:	-45 psf. (See General Limitation #9.)

Membrane Type: BUR

Deck Type 7I: Recover

Deck Description: Wood

System Type B(2): Base insulation layer mechanically fastened; top layer adhered with approved asphalt.

All General and System Limitations apply.

Base Insulation Layer	Insulation Fasteners (Table 3)	Fastener Density/ft ²
ACFoam II, ENRGY 3, PSI 25, H-Shield Minimum 1.5" thick	1, 2, 5	1:1.33 ft ²

Note: Base layers of insulation shall be mechanically attached using the fastener density listed. The insulation panels listed are minimum sizes and dimensions; if larger panels are used, the number of fasteners shall be increased maintaining the same fastener density. Insulation fasteners shall be tested for withdrawal resistance in compliance with Protocol TAS 105 to confirm compliance with the wind load requirements. Please refer to Roofing Application Standard RAS 117 for insulation attachment.

Top Insulation Layer	Insulation Fasteners (Table 3)	Fastener Density/ft ²
Structodek High Density Fiberboard Minimum 1/2" thick	N/A	N/A

Note: Apply top layer of insulation in a full mopping of any approved mopping asphalt within the EVT range and at a rate of 20-40 lbs/100 ft². Please refer to Roofing Application Standard RAS 117 for insulation attachment. Insulation listed as Base Layer only shall be used only as base layers with a second layer of approved top layer insulation installed as the final membrane substrate. Composite insulation panels may be used as a top layer placed with the polyisocyanurate side facing down.

Base Sheet: (Optional) Install one ply of Type 43 coated base sheet or Glass-Base™ base sheet directly to the insulated substrate. Adhere in a full mopping of approved asphalt applied within the EVT range and at a rate of 20-40 lbs./sq. If base sheet is applied directly to polyisocyanurate insulation only a spot or strip mopped application as detailed in this approval is approved; see General Limitation #4.

Note: **Type 43 coated base sheet cannot be spot mopped.**

Ply Sheet: Two or more plies of Tam-Ply IV ply sheet adhered in a full mopping of approved asphalt applied within the EVT range and at a rate of 20-40 lbs./sq. (See specification number for appropriate number of plies).

Cap Sheet: (Optional) One ply of Tam-Cap® adhered in a full mopping of approved asphalt applied within the EVT range and at a rate of 20-40 lbs./sq.. (See Tamko application instructions for approved method of installation).

Surfacing: (Required if no cap sheet is used) Any coating, listed below, used as a surfacing, must be listed within a current NOA. Install one of the following:

1. Tam-Pro 846 Fibered Emulsion at 3 gal./sq.
2. Flood coat of approved asphalt with an application rate of 60 lbs./sq.; plus gravel or slag with an application rate of 400 or 300 lbs./sq. respectively.

Maximum Design Pressure: -60 psf (See General Limitation #7.)



Membrane Type: BUR

Deck Type 7I: Recover

Deck Description: Structural concrete or min 22 ga. Grade 33 steel deck with supports spaced maximum 5 feet o.c. *The deck shall record a Minimum Characteristic Resistance Force (MCRF) of 200 lbf when tested with fasteners listed in this assembly, installed through the deck in accordance with TAS 105.
This Tested Assembly has been analysed for allowable deck stress. See Evidence Submitted Table.

System Type B(3): Base insulation layer mechanically fastened; top layer adhered with approved asphalt.

All General and System Limitations apply.

Base Insulation Layer	Insulation Fasteners (Table 3)	Fastener Density/ft²
ACFoam II, ENRGY 3, PSI 25, H-Shield Minimum 1.5" thick	1, 5	1:1.33 ft²

Note: Base layers of insulation shall be mechanically attached using the fastener density listed. The insulation panels listed are minimum sizes and dimensions; if larger panels are used, the number of fasteners shall be increased maintaining the same fastener density. Insulation fasteners shall be tested for withdrawal resistance in compliance with Protocol TAS 105 to confirm compliance with the wind load requirements. Please refer to Roofing Application Standard RAS 117 for insulation attachment.

Top Insulation Layer	Insulation Fasteners (Table 3)	Fastener Density/ft²
Structodek High Density Fiberboard Minimum 1/2" thick	N/A	N/A

Note: Apply top layer of insulation in a full mopping of any approved mopping asphalt within the EVT range and at a rate of 20-40 lbs/100 ft². Please refer to Roofing Application Standard RAS 117 for insulation attachment. Insulation listed as Base Layer only shall be used only as base layers with a second layer of approved top layer insulation installed as the final membrane substrate. Composite insulation panels may be used as a top layer placed with the polyisocyanurate side facing down.

- Base Sheet:** (Optional) Install one ply of Type 43 coated base sheet or Glass-Base™ base sheet directly to the insulated substrate. Adhere in a full mopping of approved asphalt applied within the EVT range and at a rate of 20-40 lbs./sq. If base sheet is applied directly to polyisocyanurate insulation only a spot or strip mopped application as detailed in this approval is approved; see General Limitation #4.
- Note:** **Type 43 coated base sheet cannot be spot mopped.**
- Ply Sheet:** Two or more plies of Tam-Ply IV ply sheet adhered in a full mopping of approved asphalt applied within the EVT range and at a rate of 20-40 lbs./sq. (See specification number for appropriate number of plies).
- Cap Sheet:** (Optional) One ply of Tam-Cap® adhered in a full mopping of approved asphalt applied within the EVT range and at a rate of 20-40 lbs./sq.. (See Tamko application instructions for approved method of installation).
- Surfacing:** (Required if no cap sheet is used) Any coating, listed below, used as a surfacing, must be listed within a current NOA. Install one of the following:
1. Tam-Pro 846 Fibered Emulsion at 3 gal./sq.
 2. Flood coat of approved asphalt with an application rate of 60 lbs./sq.; plus gravel or slag with an application rate of 400 or 300 lbs./sq. respectively.
- Maximum Design Pressure:** -75 psf. (See General Limitation #7.)

Membrane Type: BUR

Deck Type 7I: Recover

Deck Description: Wood/Steel/Concrete/Cementitious Wood Fiber/Gypsum

System Type C: All layers of insulation simultaneously attached.

All General and System Limitations apply.

Base Insulation Layer	Insulation Fasteners (Table 3)	Fastener Density/ft²
ACFoam II, H-Shield Minimum 1.2” thick	N/A	N/A
ENRGY 3, ENRGY 3 25 PSI Minimum 1.4” thick	N/A	N/A
Fesco Board, Structodek High Density Fiberboard Minimum 1/2” thick	N/A	N/A

Note: All layers shall be simultaneously fastened; see top layer below for fasteners and density. Insulation panels listed are minimum sizes and dimensions; if larger panels are used, the number of fasteners shall be increased maintaining the same fastener density. Please refer to Roofing Application Standard RAS 117 for insulation attachment.

Top Insulation Layer	Insulation Fasteners (Table 3)	Fastener Density/ft²
ACFoam II, H-Shield Minimum 1.3” thick	1, 2, 5, 7, 8, 9	1:3 ft ²
ENRGY 3 Minimum 1.4” thick	1, 2, 5, 7, 8, 9, 10, 11	1:3 ft ²
ISO 95+ GL Minimum 1.4” thick	1, 2, 5, 7, 8, 9, 10, 11	1:4 ft ²
Fesco Foam Minimum 1.5” thick	1, 2, 5, 7, 8, 9, 10, 11	1:4 ft ²
ACFoam Composite Minimum 1.5” thick	1, 2, 10, 11	1:2.67 ft ²
Fesco Board Minimum 3/4” thick	1, 2, 5, 7, 8, 9, 10, 11	1:2 ft ²
Structodek High Density Fiberboard Minimum 1/2” thick	1, 2, 5, 7, 8, 9, 10, 11	1:2 ft ²

Note: All layers of insulation shall be mechanically attached using the fastener density listed above. The insulation panels listed are minimum sizes and dimensions; if larger panels are used, the number of fasteners shall be increased maintaining the same fastener density. Insulation fasteners shall be tested for withdrawal resistance in compliance with Testing Application Standard TAS 105 to confirm compliance with the wind load requirements. Please refer to Roofing Application Standard RAS 117 for insulation attachment.



- Base Sheet:** (Optional) Install one ply of Type 43 coated base sheet or Glass-Base™ base sheet directly to the insulated substrate. Adhere in a full mopping of approved asphalt applied within the EVT range and at a rate of 20-40 lbs./sq. If base sheet is applied directly to polyisocyanurate insulation only a spot or strip mopped application as detailed in this approval is approved; see General Limitation #4.
- Note:** **Type 43 coated base sheet cannot be spot mopped.**
- Ply Sheet:** Two or more plies of Tam-Ply IV ply sheet adhered in a full mopping of approved asphalt applied within the EVT range and at a rate of 20-40 lbs./sq. (See specification number for appropriate number of plies).
- Cap Sheet:** (Optional) One ply of Tam-Cap® adhered in a full mopping of approved asphalt applied within the EVT range and at a rate of 20-40 lbs./sq.. (See Tamko application instructions for approved method of installation).
- Surfacing:** (Required if no cap sheet is used) Any coating, listed below, used as a surfacing, must be listed within a current NOA. Install one of the following:
1. Tam-Pro 846 Fibered Emulsion at 3 gal./sq.
 2. Flood coat of approved asphalt with an application rate of 60 lbs./sq.; plus gravel or slag with an application rate of 400 or 300 lbs./sq. respectively.
- Maximum Design Pressure:** -45 psf. (See General Limitation #9.)

Membrane Type: BUR
Deck Type 7I: Recover
Deck Description: Wood
System Type D(1): Base sheet attached over insulation.

All General and System Limitations apply.

Insulation Layer	Insulation Fasteners (Table 3)	Fastener Density/ft²
One or more layers of any of the following insulations: ACFoam II, ENRGY 3, EnergyGuard Polyiso, ISO 95+GL, ACFoam Composite, Multi-Max FA-3, H-Shield, H-Shield WF		
Minimum 1" thick	N/A	N/A
Fesco Board		
Minimum ½" thick	N/A	N/A
Structodek High Density Fiberboard		
Minimum ½" thick	N/A	N/A

Note: Top layer shall have preliminary attachment, prior to the installation of the base/anchor sheet, at an application rate of two fasteners per board for insulation boards having no dimension greater than 4 ft., and four fasteners for any insulation board having no dimension greater than 8 ft. All layers of insulation and base sheet shall be simultaneously fastened. See base/anchor sheet below for fasteners and density.

Base Sheet: One ply of Tamko Glass-Base fastened to the deck as described below:

Fastening: *(Option #1)* Attach anchor sheet using 11 ga. annular ring shank nails and 1-5/8" diameter tin caps spaced 9" o.c. in a 4" lap and 9" o.c. in two staggered rows in the center of the sheet.
Maximum Design Pressure –52.5 psf. (See General Limitation #7.)

(Option #2) Attach anchor sheet using #14 Dekfast Fasteners with Plates spaced 12" o.c. in a 4" lap and 12" o.c. in two staggered rows in the center of the sheet.
Maximum Design Pressure –60 psf. (See General Limitation #7.)

Note: Base sheet fasteners shall be tested for withdrawal resistance in compliance with Testing Application Standard TAS 105 to confirm compliance with the wind load requirements set forth in applicable Building Code.

Ply Sheet: Two or more plies of Tam-Ply IV ply sheet adhered in a full mopping of approved asphalt applied within the EVT range and at a rate of 20-40 lbs./sq. (See specification number for appropriate number of plies).

Cap Sheet: (Optional) One ply of Tam-Cap® adhered in a full mopping of approved asphalt applied within the EVT range and at a rate of 20-40 lbs./sq.. (See Tamko application instructions for approved method of installation).

Surfacing: (Required if no cap sheet is used) Any coating, listed below, used as a surfacing, must be listed within a current NOA. Install one of the following:

1. Tam-Pro 846 Fibered Emulsion at 3 gal./sq.
2. Flood coat of approved asphalt with an application rate of 60 lbs./sq.; plus gravel or slag with an application rate of 400 or 300 lbs./sq. respectively.

Maximum Design Pressure: *See Base Sheet Fastening Options.*



Membrane Type: BUR

Deck Type 7I: Recover

Deck Description: Structural concrete or min 22 ga. Grade 33 steel deck with supports spaced maximum 5 feet o.c.
 *The deck shall record a Minimum Characteristic Resistance Force (MCRF) of 133 lbf when tested with fasteners listed in this assembly, installed through the deck in accordance with TAS 105.
This Tested Assembly has been analysed for allowable deck stress. See Evidence Submitted Table.

System Type D(2): Base sheet attached over insulation.

All General and System Limitations apply.

Insulation Layer	Insulation Fasteners (Table 3)	Fastener Density/ft²
ACFoam II, H-Shield Minimum 1.2" thick	N/A	N/A
ENRGY 3, ENRGY 3 25 PSI Minimum 1.4" thick	N/A	N/A
Fesco Board Minimum 3/4" thick	N/A	N/A
Structodek High Density Fiberboard Minimum 1/2" thick	N/A	N/A

Note: Top layer shall have preliminary attachment, prior to the installation of the base/anchor sheet, at an application rate of two fasteners per board for insulation boards having no dimension greater than 4 ft., and four fasteners for any insulation board having no dimension greater than 8 ft. All layers of insulation and base sheet shall be simultaneously fastened. See base/anchor sheet below for fasteners and density.

Base Sheet: One ply of Tamko Glass-Base fastened to the deck as described below:

Fastening: Attach anchor sheet using OMG Accutrak Fasteners with 3" Square Metal Plates spaced 12" o.c. in a 4" lap and 12" o.c. in two staggered rows in the center of the sheet.

Note: Base sheet fasteners shall be tested for withdrawal resistance in compliance with Testing Application Standard TAS 105 to confirm compliance with the wind load requirements set forth in applicable Building Code.

Ply Sheet: Two or more plies of Tam-Ply IV ply sheet adhered in a full mopping of approved asphalt applied within the EVT range and at a rate of 20-40 lbs./sq. (See specification number for appropriate number of plies).

Cap Sheet: (Optional) One ply of Tam-Cap® adhered in a full mopping of approved asphalt applied within the EVT range and at a rate of 20-40 lbs./sq.. (See Tamko application instructions for approved method of installation).

Surfacing: (Required if no cap sheet is used) Any coating, listed below, used as a surfacing, must be listed within a current NOA. Install one of the following:

1. Tam-Pro 846 Fibered Emulsion at 3 gal./sq.
2. Flood coat of approved asphalt with an application rate of 60 lbs./sq.; plus gravel or slag with an application rate of 400 or 300 lbs./sq. respectively.

Maximum Design Pressure: -75 psf. (See General Limitation #7.)



NOA No.: 16-0517.07
Expiration Date: 08/23/21
Approval Date: 09/08/16
Page 19 of 23

Membrane Type: BUR

Deck Type 7I: Recover

Deck Description: Wood

System Type E(1): Base sheet mechanically fastened.

All General and System Limitations apply

Base Sheet: One ply of Tamko Glass-Base fastened to the deck as described below:

Fastening: *(Option #1)* Attach anchor sheet using 11 ga. annular ring shank nails and 1-5/8" diameter tin caps spaced 9" o.c. in a 4" lap and 9" o.c. in two staggered rows in the center of the sheet.

Maximum Design Pressure –52.5 psf. (See General Limitation #7.)

(Option #2) Attach anchor sheet using #14 Dekfast Fasteners with Plates spaced 12" o.c. in a 4" lap and 12" o.c. in two staggered rows in the center of the sheet.

Maximum Design Pressure –60 psf. (See General Limitation #7.)

Note: Base sheet fasteners shall be tested for withdrawal resistance in compliance with Testing Application Standard TAS 105 to confirm compliance with the wind load requirements set forth in applicable Building Code.

Ply Sheet: Two or more plies of Tam-Ply IV ply sheet adhered in a full mopping of approved asphalt applied within the EVT range and at a rate of 20-40 lbs./sq. (See specification number for appropriate number of plies).

Cap Sheet: (Optional) One ply of Tam-Cap® adhered in a full mopping of approved asphalt applied within the EVT range and at a rate of 20-40 lbs./sq.. (See Tamko application instructions for approved method of installation).

Surfacing: (Required if no cap sheet is used) Any coating, listed below, used as a surfacing, must be listed within a current NOA. Install one of the following:

1. Tam-Pro 846 Fibered Emulsion at 3 gal./sq.
2. Flood coat of approved asphalt with an application rate of 60 lbs./sq.; plus gravel or slag with an application rate of 400 or 300 lbs./sq. respectively.

Maximum Design Pressure: *See Anchor Sheet Fastening Options.*

Membrane Type: BUR

Deck Type 7I: Recover

Deck Description: Structural concrete or min 22 ga. Grade 33 steel deck with supports spaced maximum 5 feet o.c.
*The deck shall record a Minimum Characteristic Resistance Force (MCRF) of 133 lbf when tested with fasteners listed in this assembly, installed through the deck in accordance with TAS 105.
This Tested Assembly has been analysed for allowable deck stress. See Evidence Submitted Table.

System Type E(2): Base sheet mechanically fastened.

All General and System Limitations apply

Base Sheet: One ply of Tamko Glass-Base fastened to the deck as described below:

Fastening: Attach anchor sheet using OMG Accutrac Fasteners with 3" Square Metal Plates spaced 12" o.c. in a 4" lap and 12" o.c. in two staggered rows in the center of the sheet.

Note: Base sheet fasteners shall be tested for withdrawal resistance in compliance with Testing Application Standard TAS 105 to confirm compliance with the wind load requirements set forth in applicable Building Code.

Ply Sheet: Two or more plies of Tam-Ply IV ply sheet adhered in a full mopping of approved asphalt applied within the EVT range and at a rate of 20-40 lbs./sq. (See specification number for appropriate number of plies).

Cap Sheet: (Optional) One ply of Tam-Cap® adhered in a full mopping of approved asphalt applied within the EVT range and at a rate of 20-40 lbs./sq.. (See Tamko application instructions for approved method of installation).

Surfacing: (Required if no cap sheet is used) Any coating, listed below, used as a surfacing, must be listed within a current NOA. Install one of the following:

1. Tam-Pro 846 Fibered Emulsion at 3 gal./sq.
2. Flood coat of approved asphalt with an application rate of 60 lbs./sq.; plus gravel or slag with an application rate of 400 or 300 lbs./sq. respectively.

Maximum Design Pressure: -75 psf. (See General Limitation #7.)

Membrane Type: BUR
Deck Type 7: Recover
Deck Description: Concrete
System Type F(1): Roof system adhered to roof deck.

All General and System Limitations apply.

Note: Existing roof surface deck shall be primed with ASTM D 41 asphalt primer and allowed to dry prior to application.

Ply Sheet: Two or more plies of Tam-Ply IV ply sheet adhered in a full mopping of approved asphalt applied within the EVT range and at a rate of 20-40 lbs./sq. (See specification number for appropriate number of plies).
Cap Sheet: (Optional) One ply of Tam-Cap® adhered in a full mopping of approved asphalt applied within the EVT range and at a rate of 20-40 lbs./sq.. (See Tamko application instructions for approved method of installation).
Surfacing: (Required if no cap sheet is used) Any coating, listed below, used as a surfacing, must be listed within a current NOA. Install one of the following:
1. Tam-Pro 846 Fibered Emulsion at 3 gal./sq.
2. Flood coat of approved asphalt with an application rate of 60 lbs./sq.; plus gravel or slag with an application rate of 400 or 300 lbs./sq. respectively.

Maximum Design Pressure: -230 psf (See General Limitation #9.)

Membrane Type: BUR
Deck Type 7: Recover
Deck Description: Wood/Steel/Lightweight Concrete/Cementitious Wood Fiber/Gypsum
System Type F(2): Roof system adhered to roof deck.

All General and System Limitations apply.

Note: Existing roof surface deck shall be primed with ASTM D 41 asphalt primer and allowed to dry prior to application.

Ply Sheet: Two or more plies of Tam-Ply IV ply sheet adhered in a full mopping of approved asphalt applied within the EVT range and at a rate of 20-40 lbs./sq. (See specification number for appropriate number of plies).
Cap Sheet: (Optional) One ply of Tam-Cap® adhered in a full mopping of approved asphalt applied within the EVT range and at a rate of 20-40 lbs./sq.. (See Tamko application instructions for approved method of installation).
Surfacing: (Required if no cap sheet is used) Any coating, listed below, used as a surfacing, must be listed within a current NOA. Install one of the following:
1. Tam-Pro 846 Fibered Emulsion at 3 gal./sq.
2. Flood coat of approved asphalt with an application rate of 60 lbs./sq.; plus gravel or slag with an application rate of 400 or 300 lbs./sq. respectively.

Maximum Design Pressure: -45 psf (See General Limitation #9.)



RECOVER SYSTEM LIMITATIONS:

1. All System Limitations and General Limitations shall apply. See specific deck type Notice of Acceptance for deck type System Limitations.
2. All assemblies listed herein shall be installed in compliance with the applicable sections of FBC 1521. Uplift performance of assemblies bonded to existing roofing system shall be verified per 1521.10. Uplift performance of assemblies mechanically attached through existing roofing system shall be verified per 1521.11.

GENERAL LIMITATIONS:

1. Fire classification is not part of this acceptance; refer to a current Approved Roofing Materials Directory for fire ratings of this product.
2. Insulation may be installed in multiple layers. The first layer shall be attached in compliance with Product Control Approval guidelines. All other layers shall be adhered in a full mopping of approved asphalt applied within the EVT range and at a rate of 20-40 lbs./sq., or mechanically attached using the fastening pattern of the top layer
3. All standard panel sizes are acceptable for mechanical attachment. When applied in approved asphalt, panel size shall be 4' x 4' maximum.
4. An overlay and/or recovery board insulation panel is required on all applications over closed cell foam insulations when the base sheet is fully mopped. If no recovery board is used the base sheet shall be applied using spot mopping with approved asphalt, 12" diameter circles, 24" o.c.; or strip mopped 8" ribbons in three rows, one at each side lap and one down the center of the sheet allowing a continuous area of ventilation. Encircling of the strips is not acceptable. A 6" break shall be placed every 12' in each ribbon to allow cross ventilation. Asphalt application of either system shall be at a minimum rate of 12 lbs./sq.

Note: Spot attached systems shall be limited to a maximum design pressure of -45 psf.

5. Fastener spacing for insulation attachment is based on a Minimum Characteristic Force (F') value of 275 lbf., as tested in compliance with Testing Application Standard TAS 105. If the fastener value, as field-tested, are below 275 lbf. Insulation attachment shall not be acceptable.
6. Fastener spacing for mechanical attachment of anchor/base sheet or membrane attachment is based on a minimum fastener resistance value in conjunction with the maximum design value listed within a specific system. Should the fastener resistance be less than that required, as determined by the Building Official, a revised fastener spacing, prepared, signed and sealed by a Florida registered Professional Engineer, Registered Architect, or Registered Roof Consultant may be submitted. Said revised fastener spacing shall utilize the withdrawal resistance value taken from Testing Application Standards TAS 105 and calculations in compliance with Roofing Application Standard RAS 117.
7. Perimeter and corner areas shall comply with the enhanced uplift pressure requirements of these areas. Fastener densities shall be increased for both insulation and base sheet as calculated in compliance with Roofing Application Standard RAS 117. Calculations prepared, signed and sealed by a Florida registered Professional Engineer, Registered Architect, or Registered Roof Consultant **(When this limitation is specifically referred within this NOA, General Limitation #9 will not be applicable.)**
8. All attachment and sizing of perimeter nailers, metal profile, and/or flashing termination designs shall conform to Roofing Application Standard RAS 111 and applicable wind load requirements.
9. The maximum designed pressure limitation listed shall be applicable to all roof pressure zones (i.e. field, perimeters, and corners). Neither rational analysis, nor extrapolation shall be permitted for enhanced fastening at enhanced pressure zones (i.e. perimeters, extended corners and corners). **(When this limitation is specifically referred within this NOA, General Limitation #7 will not be applicable.)**
10. All products listed herein shall have a quality assurance audit in accordance with the Florida Building Code and Rule 61G20-3 of the Florida Administrative Code.

END OF THIS ACCEPTANCE



NOA No.: 16-0517.07
Expiration Date: 08/23/21
Approval Date: 09/08/16
Page 23 of 23